

### **REMARKS**

Upon entry of the amendments in this paper, claims 1-24 will be pending in the above-identified application, with claims 1-8 being withdrawn. Claims 9, 14, 19, and 24 are herein amended. No new matter is entered. It is respectfully submitted that this paper is fully responsive to the Office action mailed on March 18, 2010.

### **Examiner Interview**

Applicants appreciate the courtesy extended by Examiner Van Roy during the interview conducted on June 16, 2010. The contents of the interview are incorporated into the remarks presented below.

### **Claim Rejections - 35 U.S.C. §101**

Claims 19-23 stand rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

The Examiner's position is that claim 19 outlines a program product for causing a computer to generate a setting value without physical representation of the product and that the claim is therefore a judicial exception.

To expedite prosecution and clarify the subject matter of claim 19, Applicants herein amend claim 19 to recite that the program is "on a recordable medium" and that "the laser module ~~can be operated~~ is configured to operate" with the setting value.

In view of this amendment and the above remarks, Applicants respectfully request that this rejection be withdrawn.

**Claim Rejections – 35 U.S.C. §103**

Claims 9-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Applicants' disclosed prior art (hereafter "APA").

Claims 14-18 stand rejected for the same reasons given in the rejection to claims 9-13, as they are the methods for calculating the setting value that has been taught in the prior art.

Claim 24 stands rejected for the same reasons given for the rejection to claims 9 and 19 above.

Applicants disagree with the Examiner's characterization of the APA and the previously presented claim language. However, to expedite prosecution, Applicants herein amend claim 9 to clarify the claimed subject matter. In view of this amendment and the following remarks, Applicants request favorable reconsideration of claims 9-24.

Applicants submit that a *prima facie* obviousness case was not presented with respect to the conclusion that it would have been an obvious matter of "design choice" to simply adjust the APC setting value of the APA device. To set forth a *prima facie* obviousness case, evidenced motivation must be provided indicating why one skilled in the art would be motivated, lead, or suggested to modify an existing reference in view of another reference. However, the Office Action lacks the requisite evidenced motivation. Specifically, the Office Action fails to describe how engineering design choice modifies the AAPA of Figs. 3A and 3B to realize the claimed

optimum power intensity setting range (*e.g.*, illustrated in Figs. 4A and 4B.) It should be noted, for example, that the optimum power intensity setting range is never realized by engineering design choice which would allow for values of increased, or decreased, power to be used during varied operating conditions to provide clear output signals.

Furthermore, Applicants submit that the sequence illustrated in Fig. 2 of the present application determines that a device as illustrated in Fig. 3A is normal and a device as illustrated in Fig. 3B is defective. In the defective device of Fig. 3B, the center P\_Cent of the power variable range is set at step S13 and the APC control is initiated at step S14. The APC control is intended to **always keep** the power of the device at the center P\_Cent. At step S15, the wavelength obtained at an initial temperature T1 is measured. Of course, the initial temperature is within the temperature variable range. Initially, the defective device will have a wavelength W1 that greatly deviates from the target wavelength  $\lambda_{\text{targ}}$ , because the center P\_Center of the power variable range is outside of the temperature variable range. At step S16, the difference  $\Delta\lambda$  between the actual wavelength W1 and the target wavelength  $\lambda_{\text{targ}}$  is calculated. At step S17, the logical temperature variation T\_Cal for compensating for the error wavelength  $\Delta\lambda$  is calculated. At step S18,  $T1 + T_{\text{Cal}}$  is obtained as the setting temperature T\_Set. At step 19, it is determined whether  $T_{\text{Low}} \leq T_{\text{Set}} \leq T_{\text{High}}$ . Initially, the answer of step S18 may be YES. The process goes through S20-S23, and performs step S24 at which it is determined whether  $\Delta\lambda$  is within the allowable range. Since the answer of step S24 is NO, step S17 is carried out again. **Then, step S19 is carried out.**

The above process may be repeatedly carried out. In any event, **the answer of step S19 is NO because the center P\_Center of the power variable range is located outside of the temperature variable range.** In other words, the target wavelength  $\lambda_{\text{targ}}$  *cannot be obtained* at the center P\_Cent of the power variable range even by adjusting the temperature within the temperature variable range.

It should be noted that the sequence illustrated in Fig. 2 does not allow the alleged sequence mentioned on page 4 of the Office Action. One reason is because the sequence of Fig. 2 does not handle “drifting over time” to a controlling point outside of the temperature variable range. The “zero error” mentioned by the Examiner is not realized because the controlling point at the target wavelength  $\lambda_{\text{targ}}$  is not realized by adjusting the temperature within the temperature variable range.

Further, Applicants disagree with the statement given on page 5 of the Office Action. The AAPA supposes only **one point of power** with respect to a single-wavelength laser (*e.g.*, page 1, lines 29-32 of the English text). Only one point of power is the center P\_Cent of the power variable range. The AAPA does not suppose any power other than the center P\_Cent of the power variable range. It also should be noted that “power margin” described at page 1 line 33 is directed to the multi-wave tuning and only one power is set for each wavelength. The APA does not describe any motivation to vary the APA to a value other than the center power value. The APA intends to use only one power value, and does not allow any design choice.

Applicants submit that it is apparent that an optimum power intensity setting range is not obtained from the APA. Figs. 3A and 3B do not teach or suggest any concept of the claimed

optimum power intensity setting range (*e.g.*, illustrated in Figs. 4A and 4B.) Even if a value other than the central power value is selected, the APA does not describe any way and motivation to modify the AA.PA of Figs. 3A and 3B to realize the power intensity range as claimed.

In view of the aforementioned remarks, Applicants submit that claims 9-24 are patentable over the APA.

In addition, as explained during the Examiner Interview, the APA does not disclose that “the laser module can be operated in a normal operation with the setting value that is located within both the continuous part of the predetermined temperature setting range and the continuous part of the predetermined power intensity setting range and has a power different from a center value of the predetermined power intensity variable range even when the laser module operates outside of the predetermined temperature variable range at the center value of the predetermined power intensity variable range while the laser light is kept at the predetermined wavelength.” See currently amended claims 9, 14, 19, and 24.

Applicants request favourable reconsideration of pending claims 9-24 for the reasons discussed above.

### **Conclusion**

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

Application No. 10/614,277  
Art Unit: 2828

Amendment under 37 C.F.R. §1.111  
Attorney Docket No. 030824

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,  
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